

09/844,693

IN THE SPECIFICATION

1. Please add the following paragraph immediately before the section entitled "Field of The Invention" (page 1, lines 6-7):

Reference to Government Funding

This invention was made with Government support under Contract Number N66001-00-C-8001 awarded by Space and Naval Warfare Systems Center. The Government has certain rights in this invention.

2. Please delete the portion of the Detailed Description appearing on page 5, lines 2-26. Please insert these deleted paragraphs in the Background of the Invention, following the paragraph that ends on page 1, line 28.

3. Please amend the paragraph beginning on page 5, line 27 and ending on page 5, line 29 as follows:

The prior art thus far described with reference to Figure 1 corresponds to a simple-VPN in our terminology, and consists of a single encryption domain, or a collection of encryption domains, that utilize a single master node to mediate and manage all group communications.

4. Please amend the paragraph beginning on page 9, line 18 and ending on page 9, line 26 as follows:

The use of multiple master nodes in a super-VPN in accordance with the teachings disclosed herein may thus increase the scalability of VPNs through distribution of encryption key management and other related tasks. Preferred super-VPN embodiments may similarly increase the reliability and efficiency of a VPN by enabling distribution and load balancing of other master node management tasks such as address management and validation of nonces. The latter (nonces) may be employed, for example, for purposes of the intrusion tolerance protocols disclosed in the patent application commonly assigned United States Patent Application No. 10/089,941.

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filed September 15 2003 and entitled "Methods And Protocols For Intrusion-Tolerant Management Of Collaborative Network Groups", serial no. to be determined, filed by the assignee of the present invention on event date with the present filing.

5. Please amend the paragraph beginning on page 11, line 14 and ending on page 12, line 4 as follows:

Master nodes 500 and 550 in Fig. 5, for example, may be advantageously implemented and deployed as servers that are part of an edge-based content delivery network. Edge-based content delivery networks may be deployed to improve the speed, throughput, and so on of traffic flow through the Internet by using techniques such as the replication and caching of content (especially relatively static content) at so-called "edge" servers located around topological edges of the Internet. For example, when a client requests particular data content from a network source, this approach may automatically forward or re-route the client's request to an edge server where that content has previously been replicated or cached and that is positioned relatively close to the requesting client (or otherwise determined to have a good quality of connectivity with that client). The desired content is then preferably serves to the client from that point, instead of having to traverse the interior "cloud" of the Internet all the way from an original, central server. Preferably the edge server is selected at least partly on the basis of performance criteria including best/closest connection to the requesting client. For example, selection criteria may preferably include connectivity estimates/metrics between the selected edge server and client system such as: geographical distance, topological distance, bandwidth, latency, jitter, financial costs (e.g. e.g., fees associated with any necessary traversals of commercial network backbone crossing points), and national/political boundaries that would be traversed. Note that edge-based content delivery network technology is known to skilled practitioners in the art, and has been widely commercialized by companies including Digital Island and Akamai. For more details see, for example, <http://www.digisite.net>; ~~<http://www.akamai.com>~~; www.digisite.net; www.akamai.com; and United States Patent No. 6,185,598 entitled "Optimized Network Resource Location."

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